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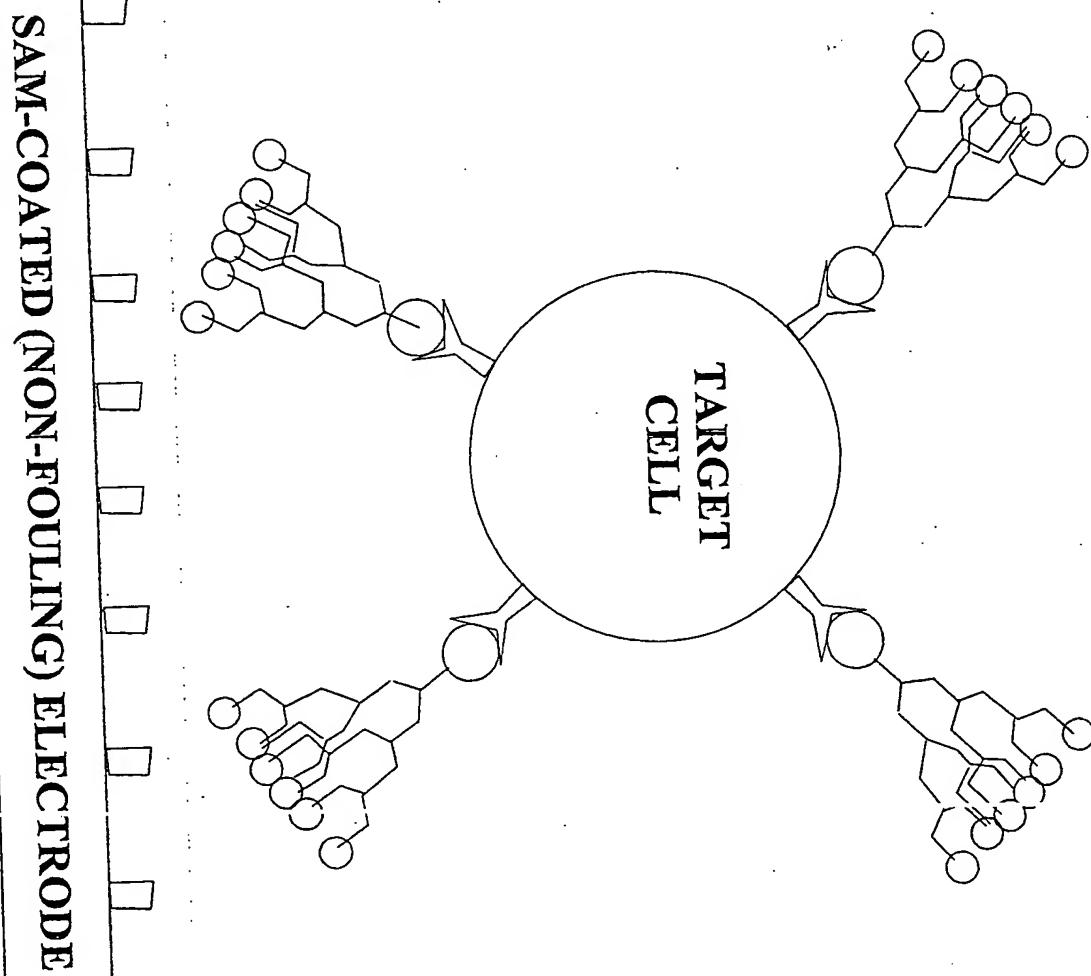
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INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
Serial No.: Filed Herewith
Docket No.: M1015.70002US01



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SAM-COATED (NON-FOULING) ELECTRODE

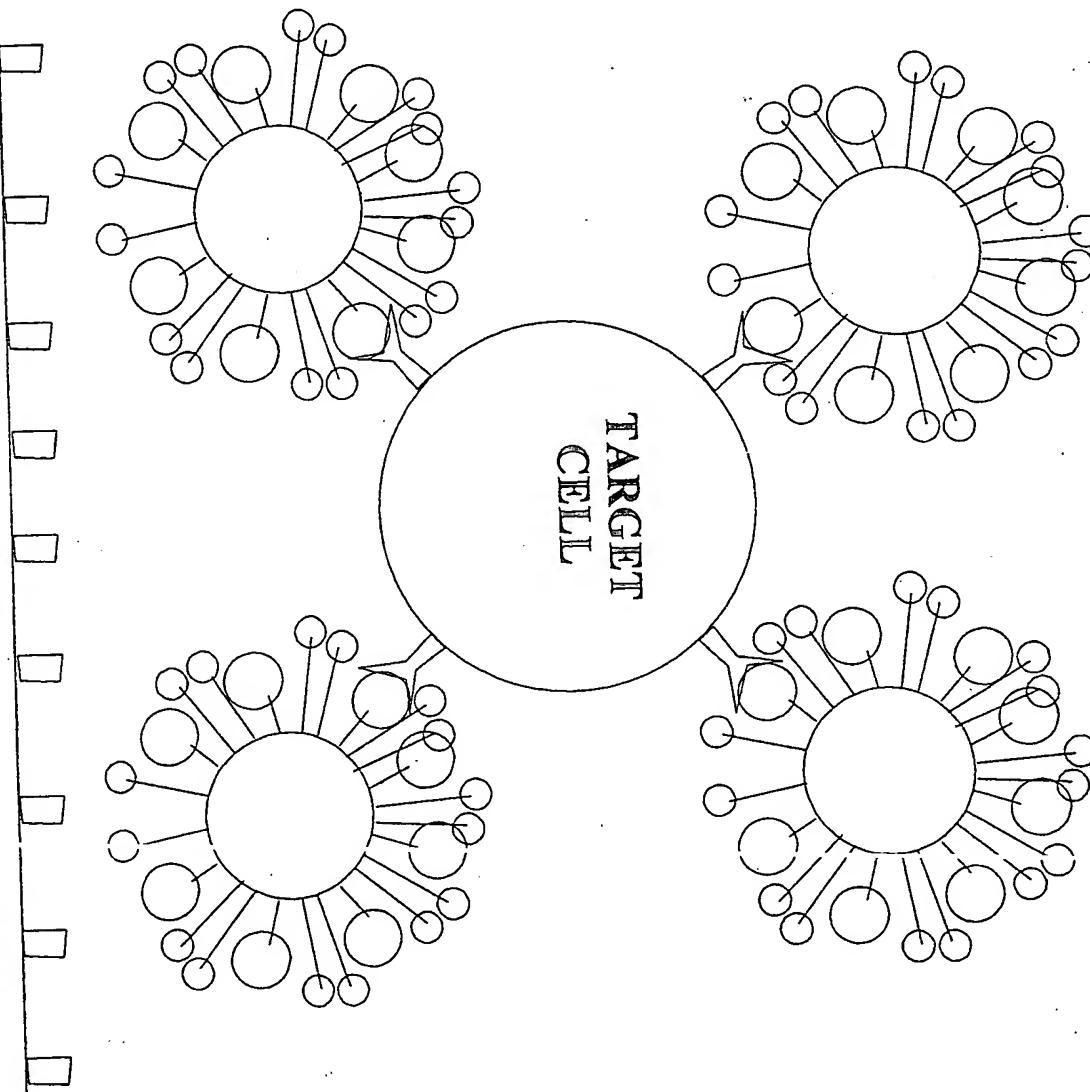
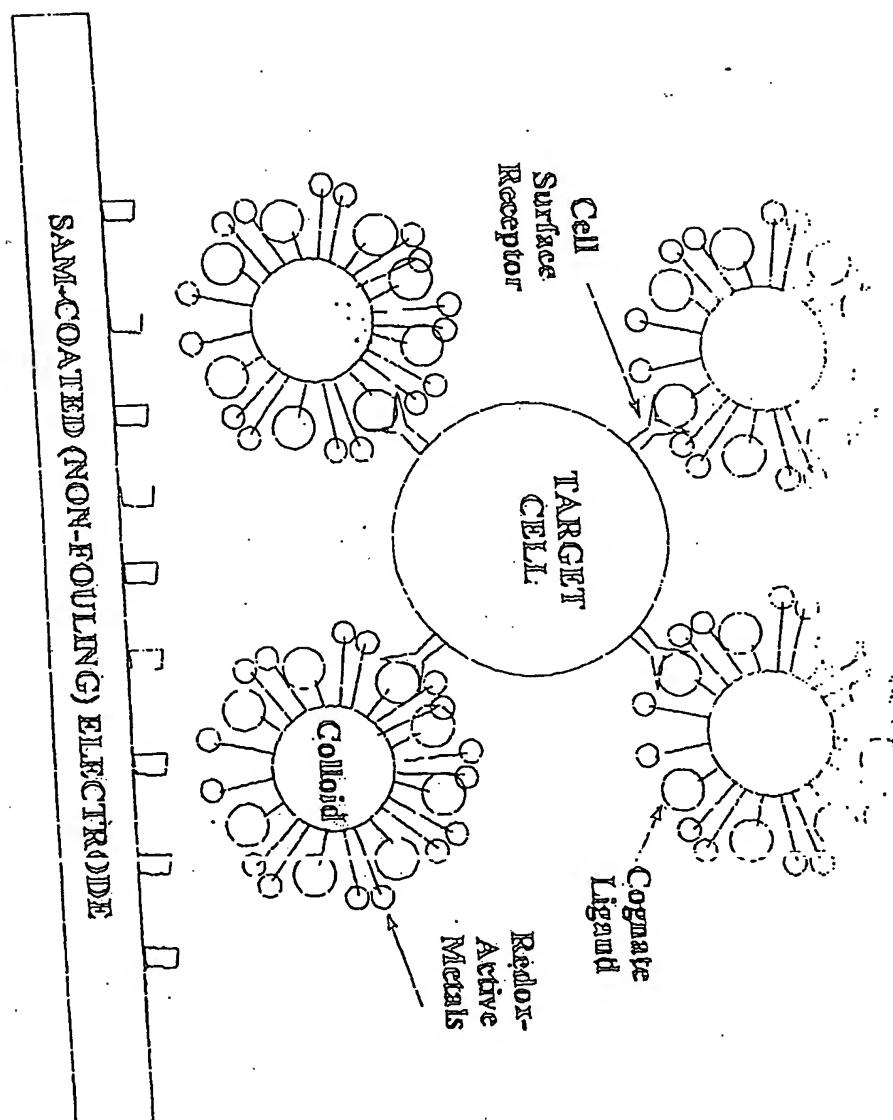


FIG. 2

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
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Figure 3



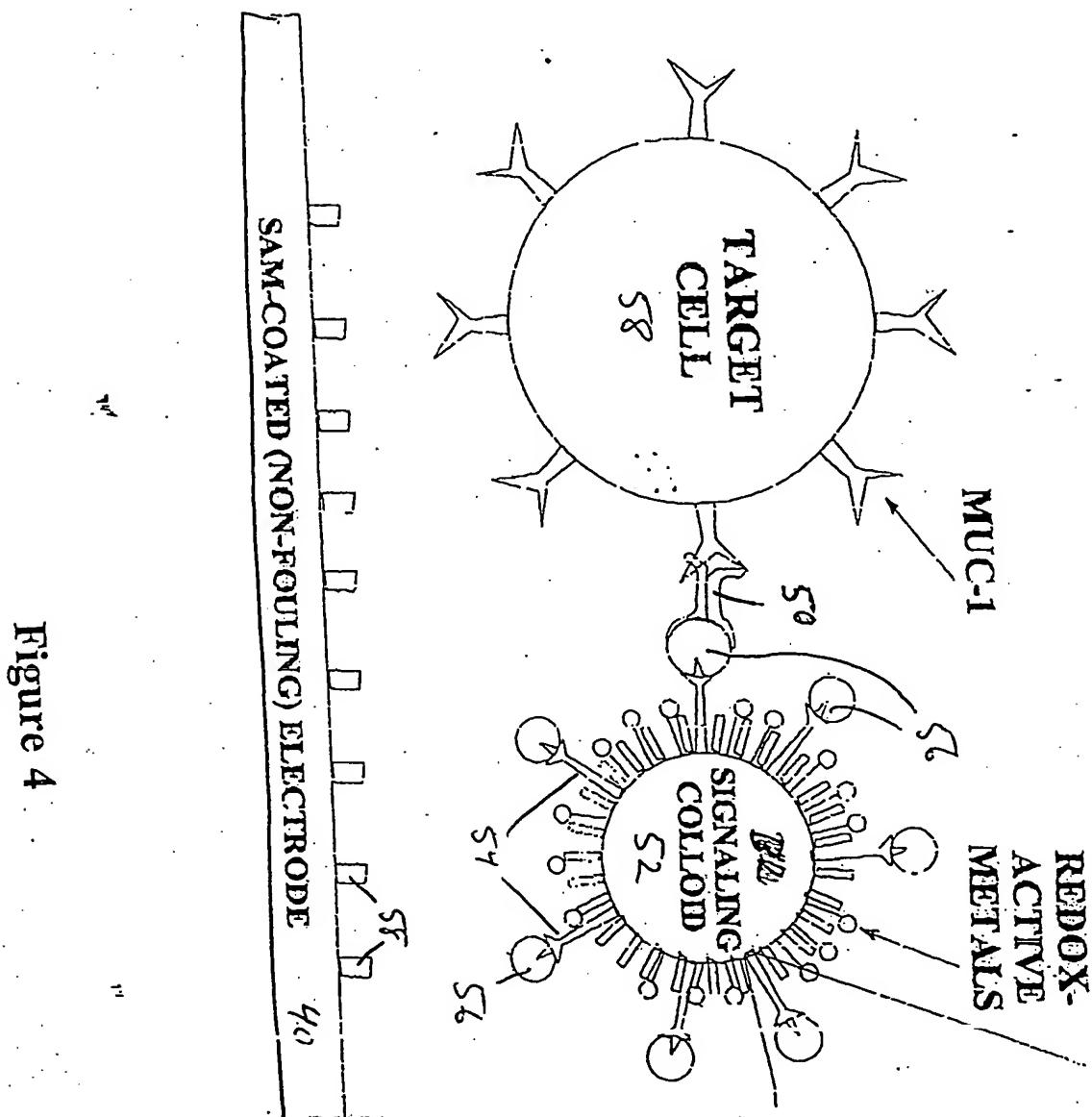


Figure 4

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Cynthia C. Bamdad et al.
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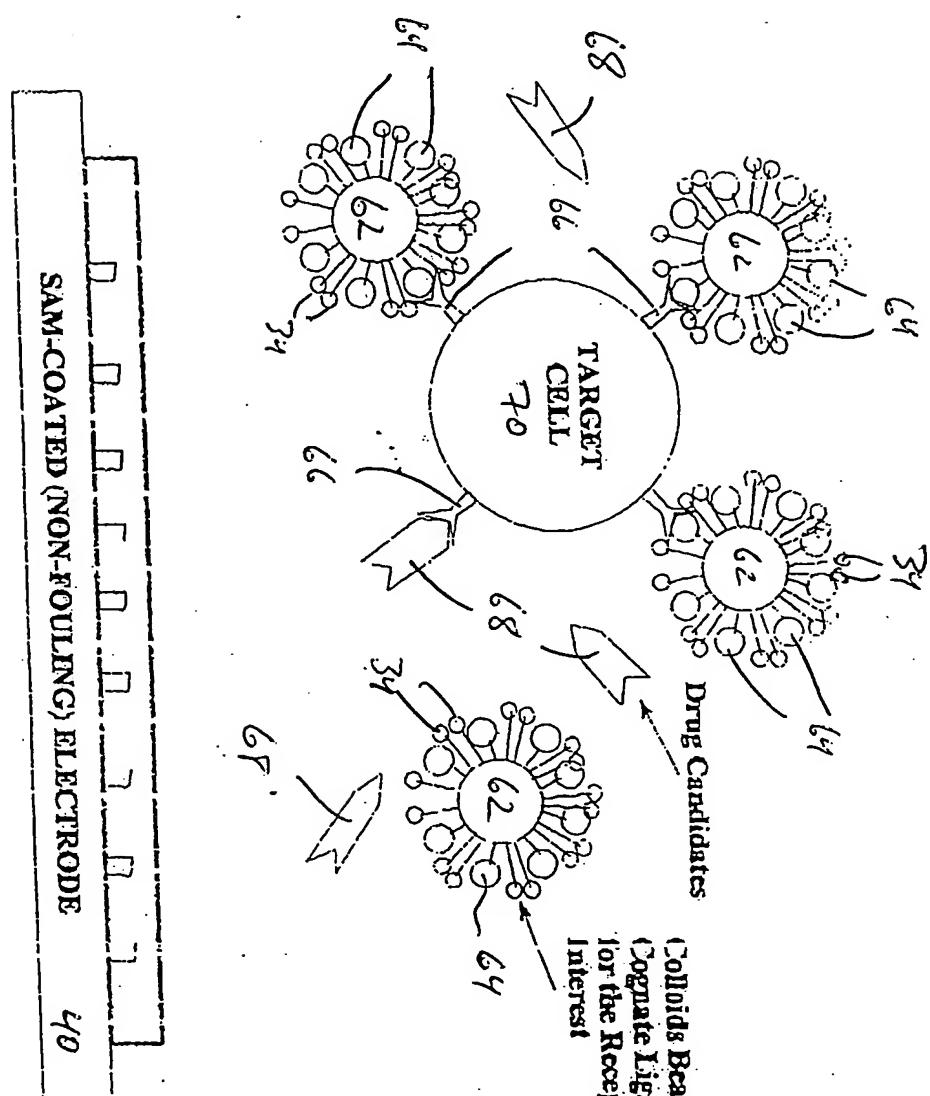
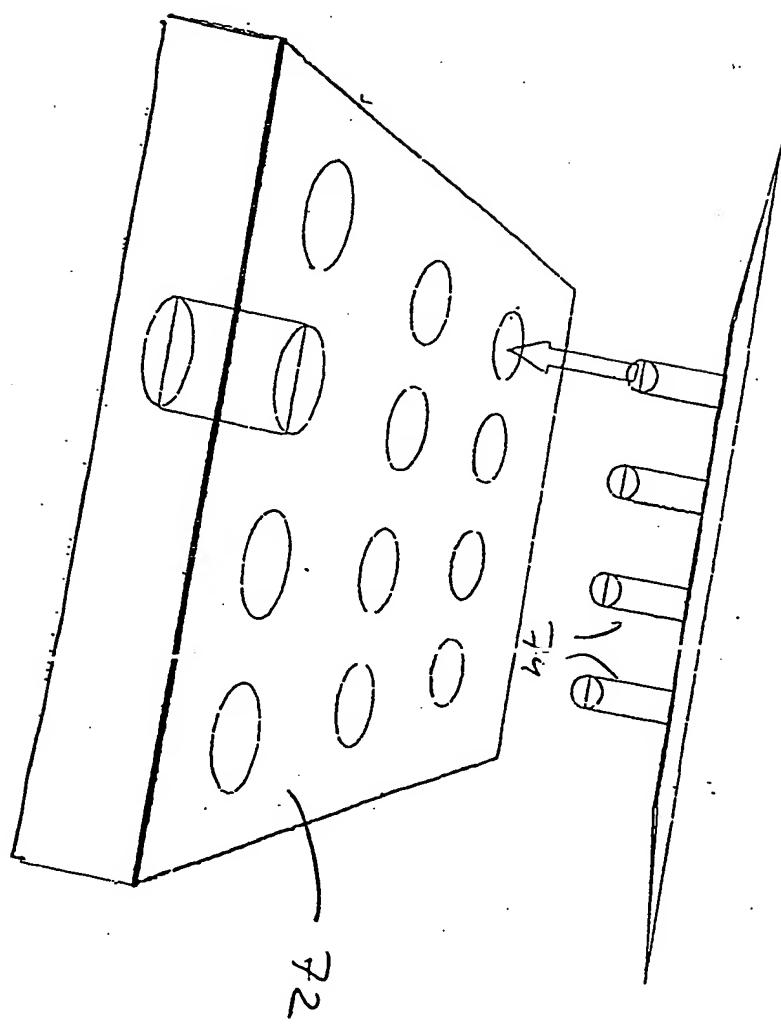


Figure 5

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Figure 6



INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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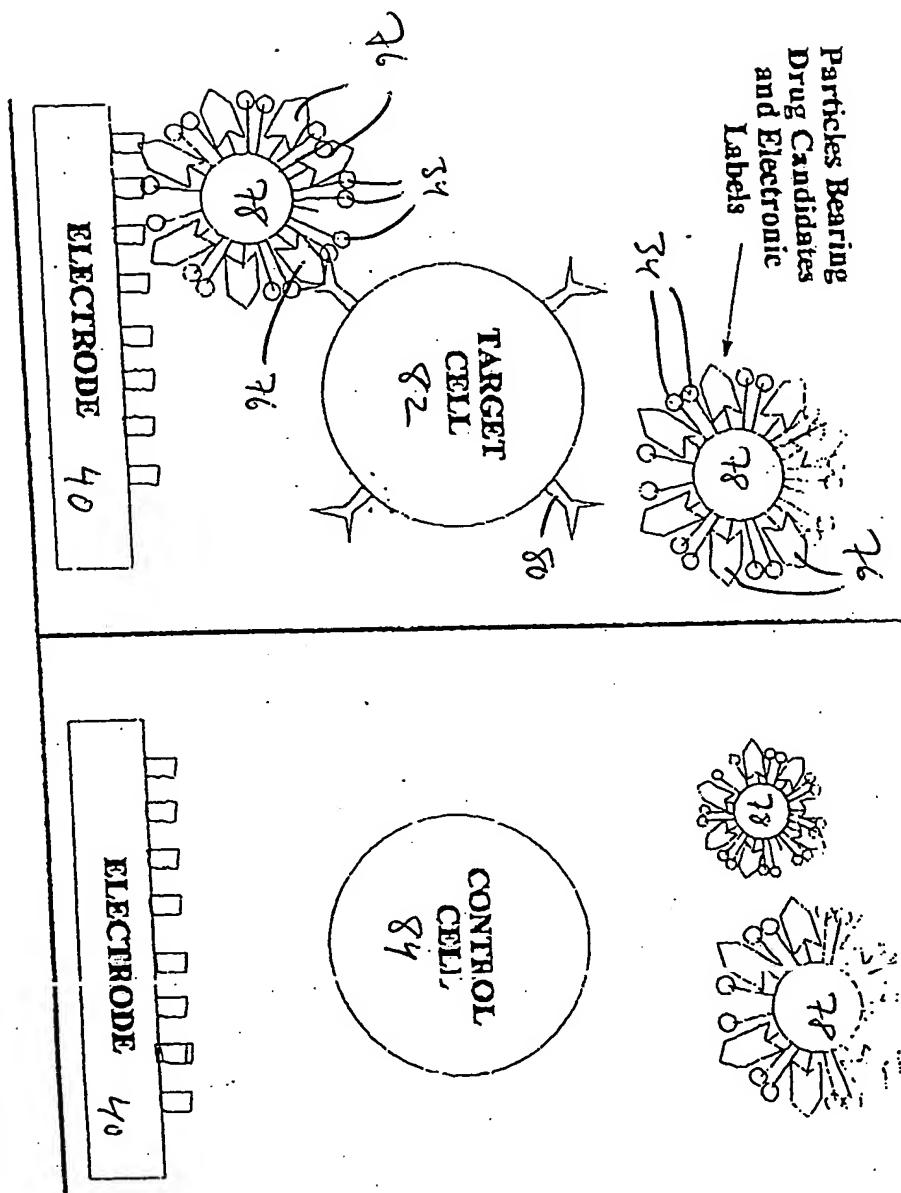


Figure 7

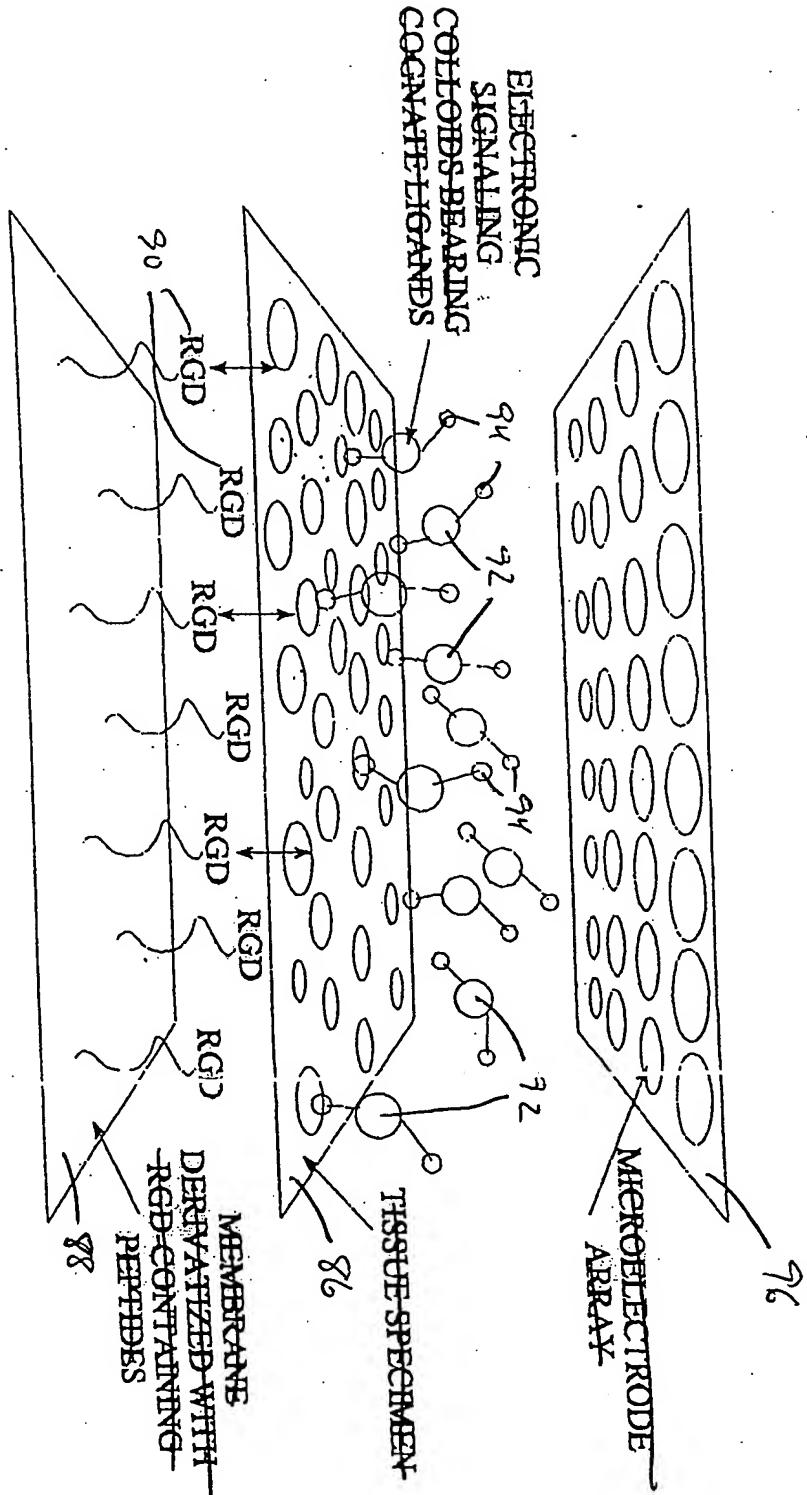


Figure 8

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
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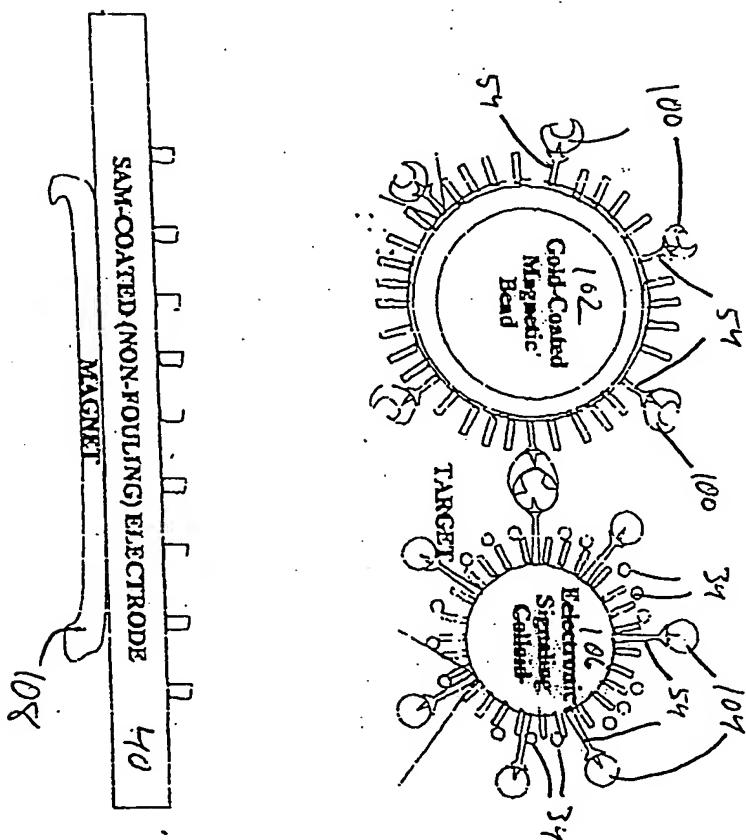


Figure 9

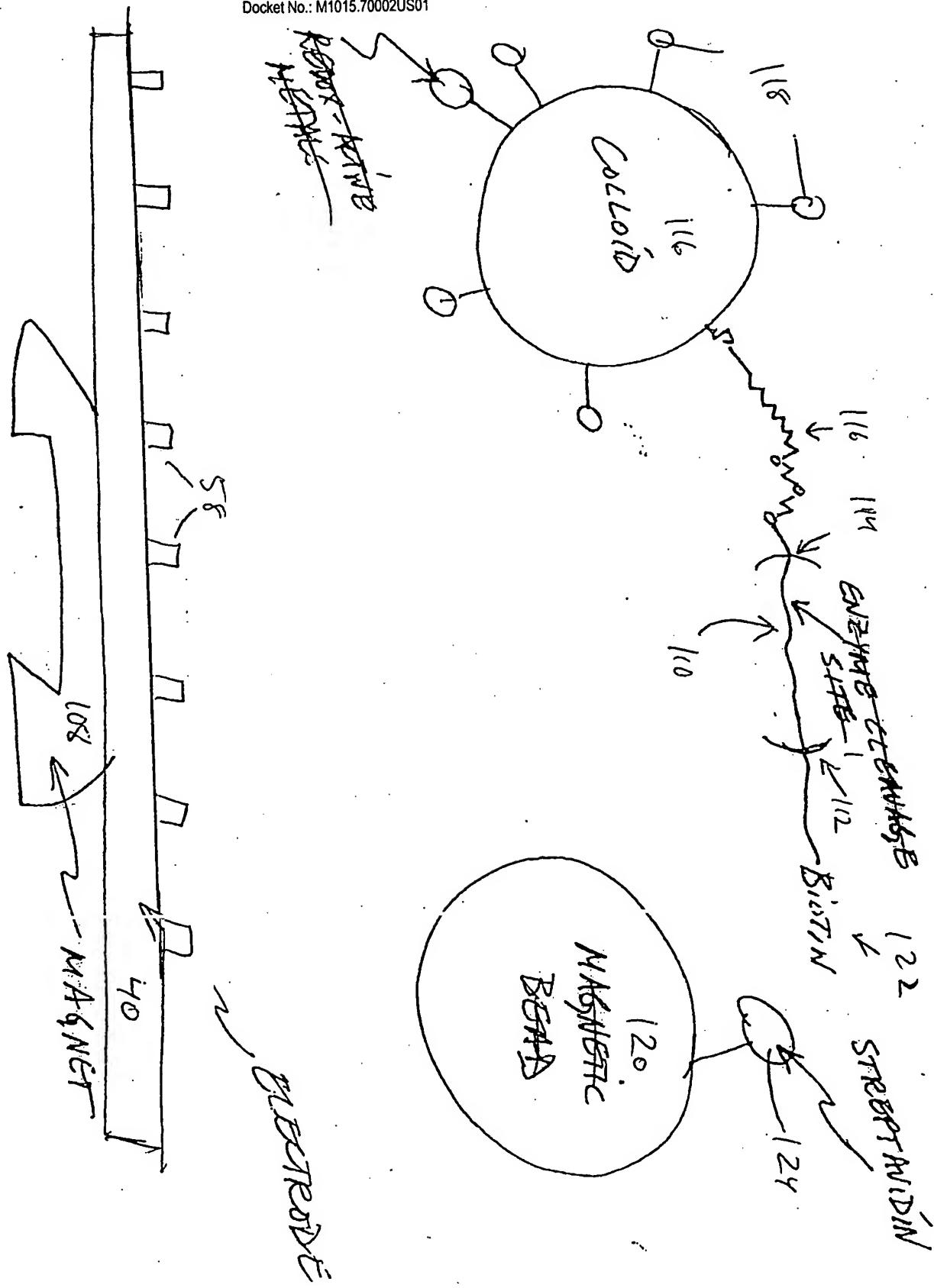


Figure 10

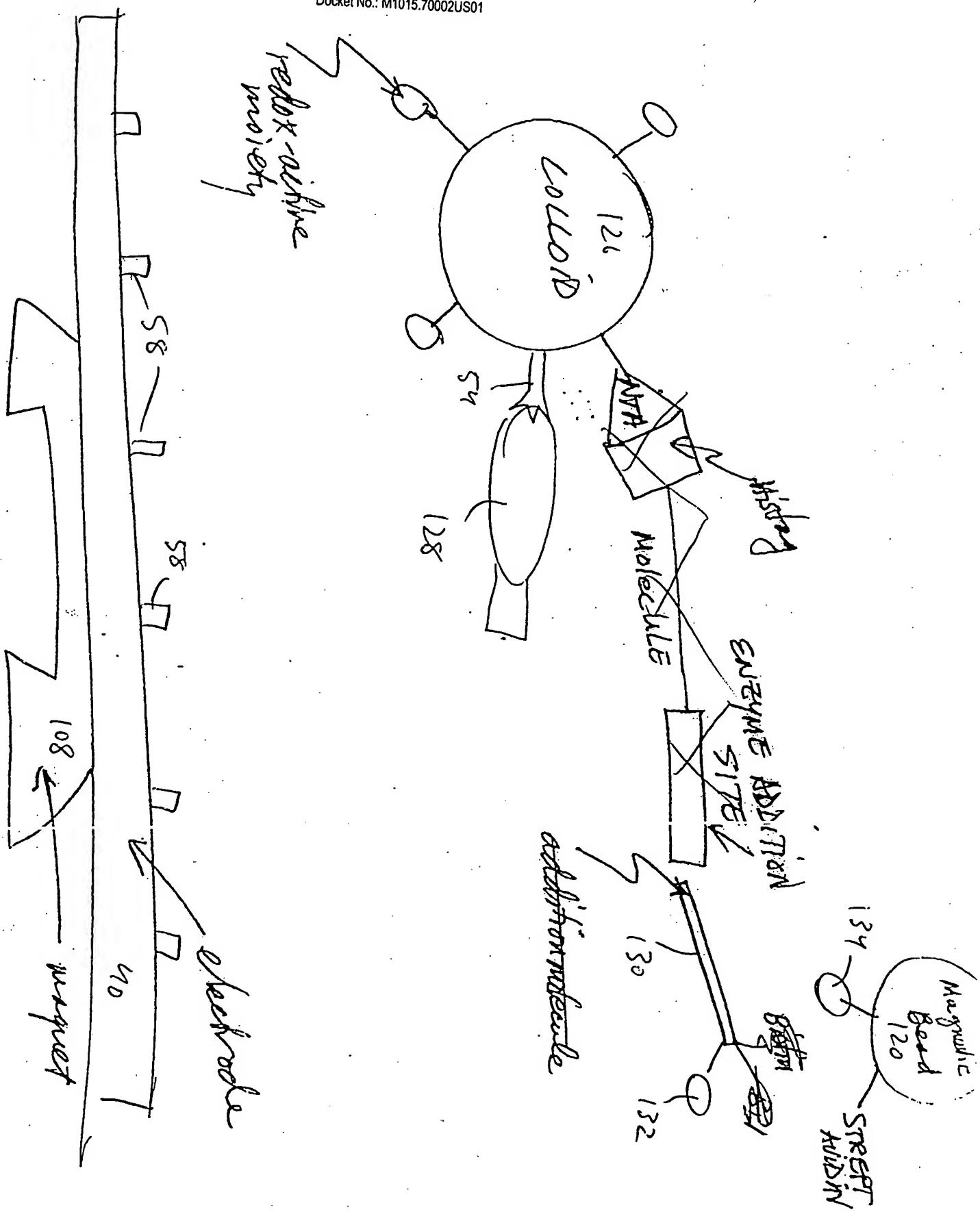


Figure 11

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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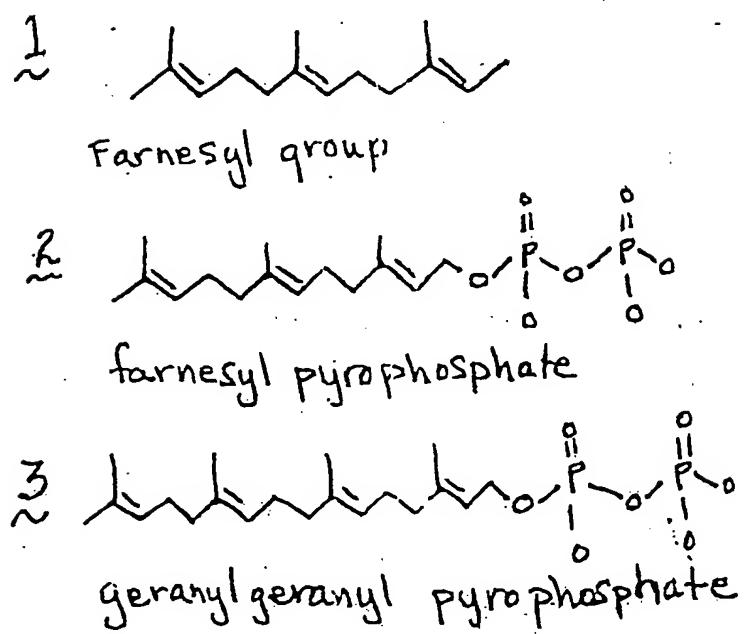
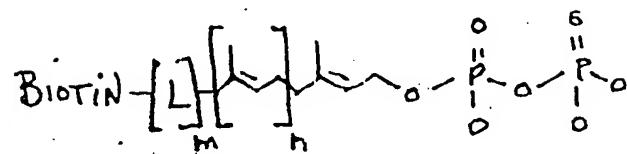


Figure 12

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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a)

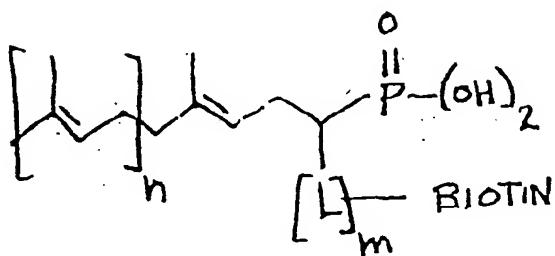


$$n = 0-10$$

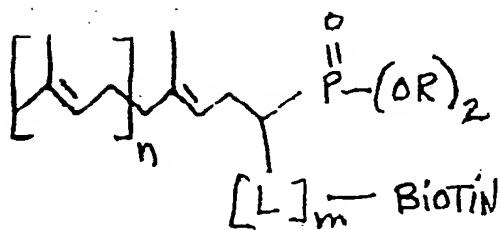
L = Linker

$$m = 0-10$$

b)



c)



d)

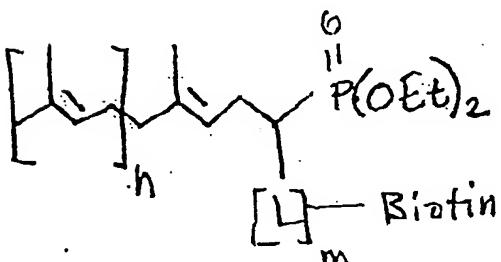


Figure 13

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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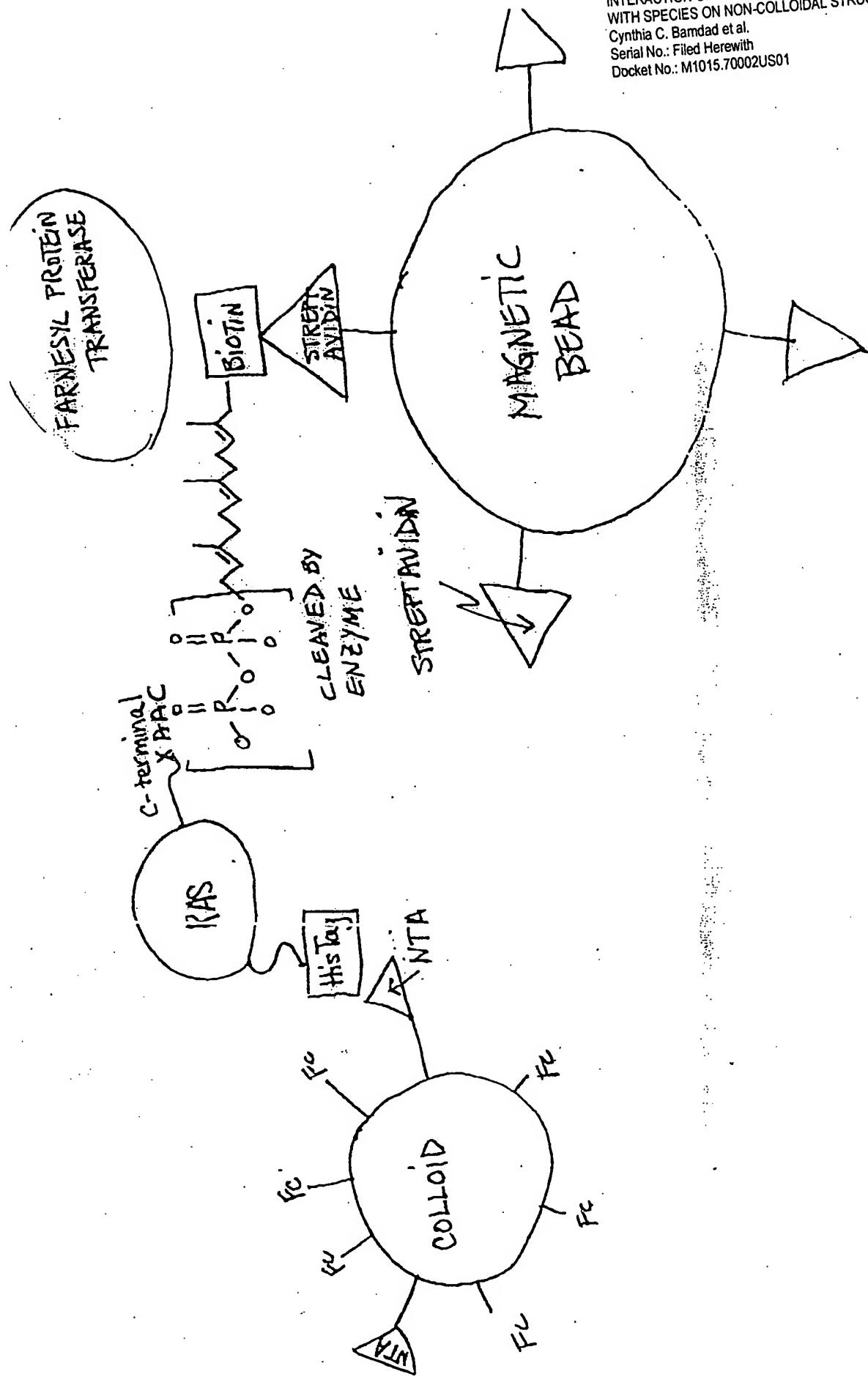


Figure 14

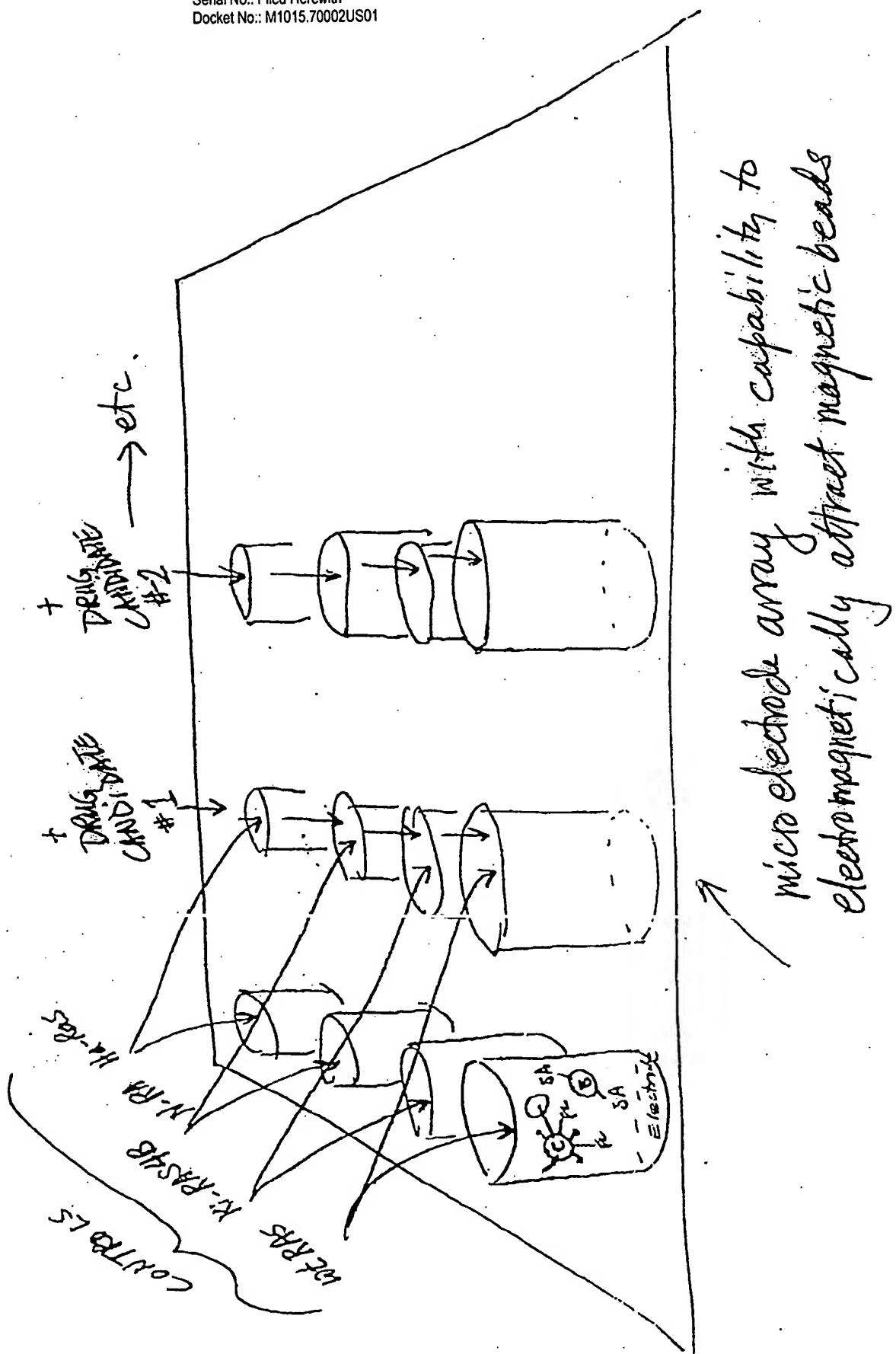


Figure 15

Sept. 28, 1999 21:43:48

Tech: ACV

File: cb038_011.bin

Init E (V) = 0
Final E (V) = 0.9
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 2e-6

● cb038_011.bin
× cb038_012.bin
— cb038_013.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Fig 1A

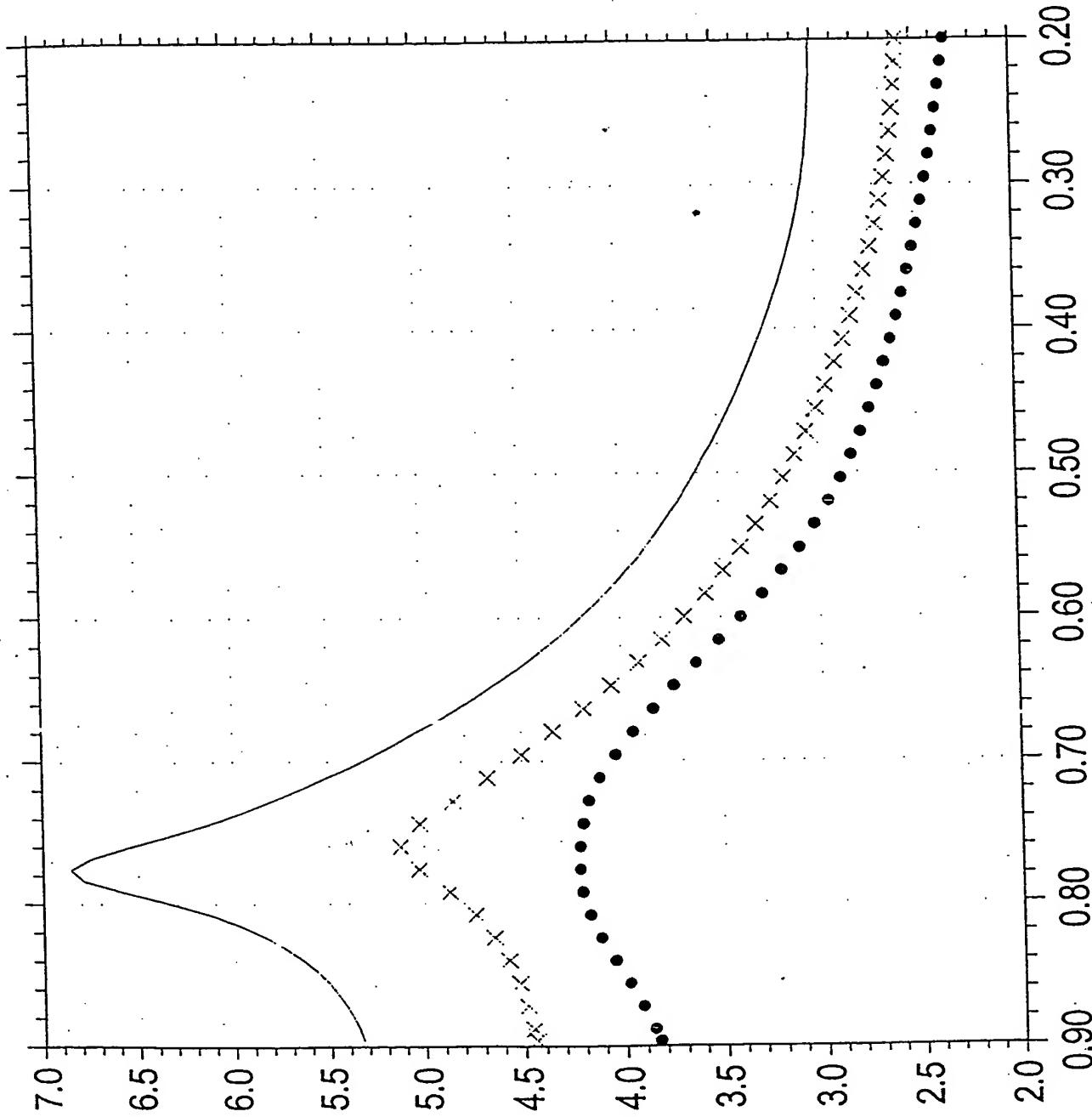


Fig. 16

Sept. 28, 1999 22.44.11

Tech: ACV

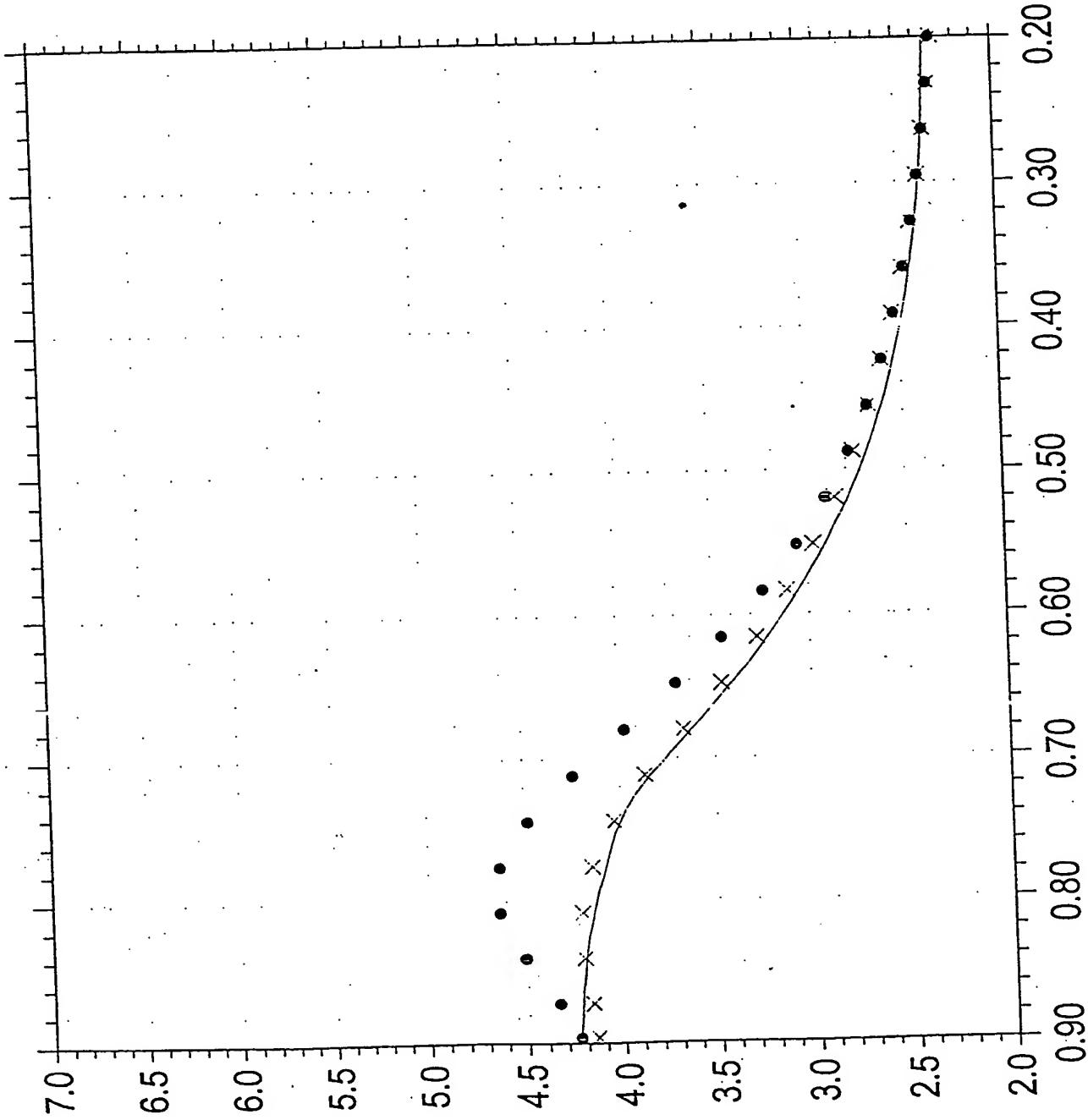
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Final E (V) = 0.9
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 2e-6

● cb038_014.bin
× cb038_015.bin
— cb038_016.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Fig 16



AC Current / 10^{-6} A

Potential / V

Fig 17

Oct. 5, 1999 16:34:32

Tech: ACV

File: cb042_002.bin

Init E (V) = 0
Final E (V) = 0.9
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 2
Quiet Time (s) = 2
Sensitivity (A/V) = 5e-5

— cb042_002.bin
● cb042_005.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
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Fig. 16

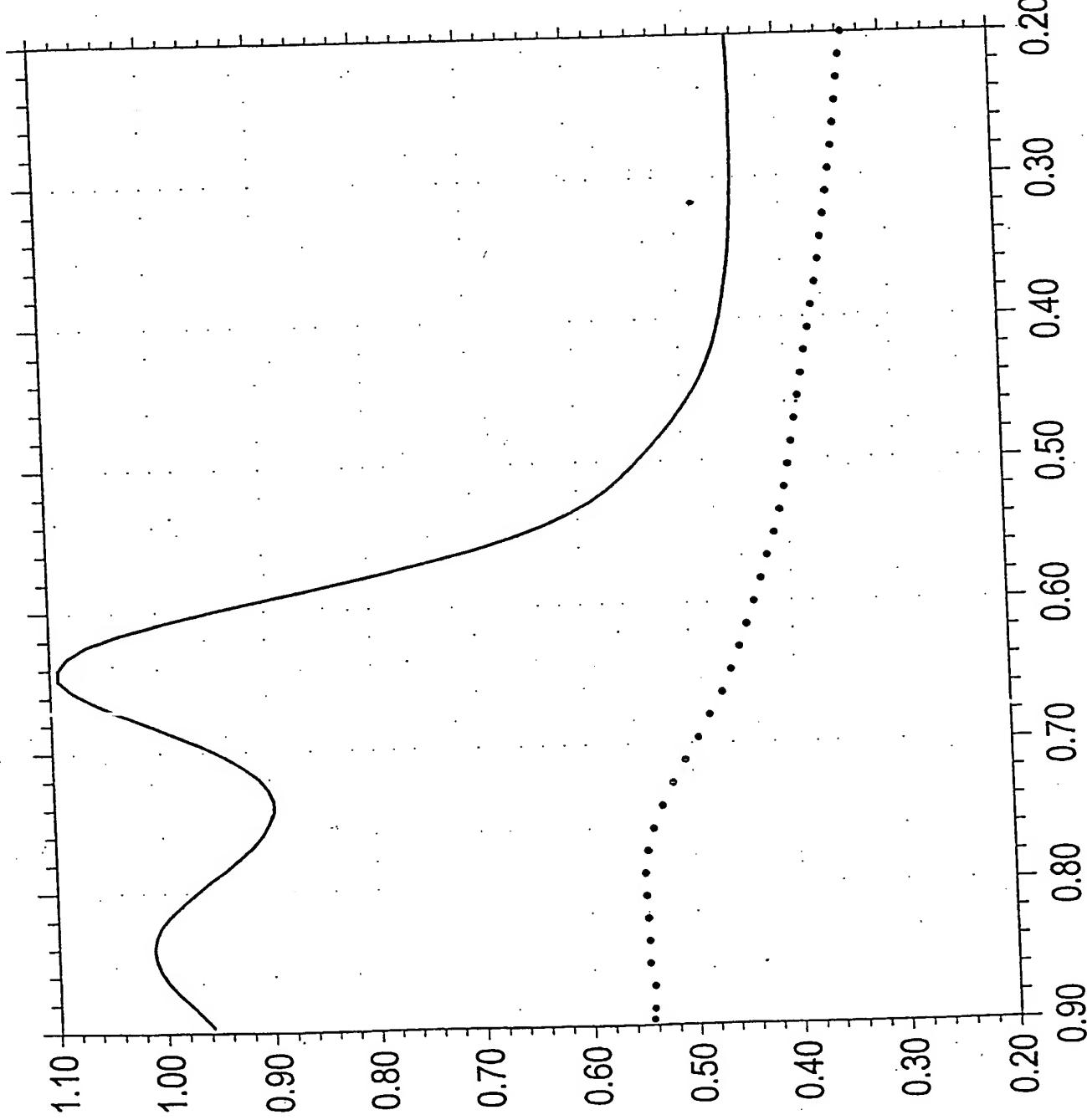
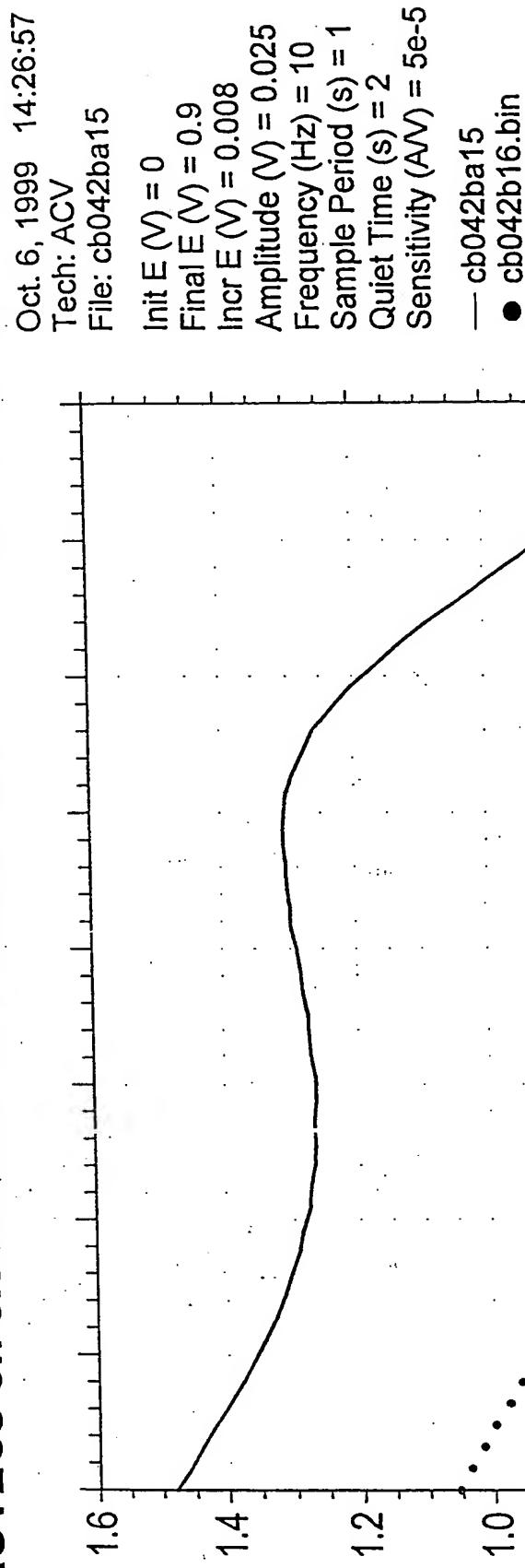


Fig. 16

Fig. 16

HUVECs on electrodes coated with 25% HIFU - now reverse



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Fig 3

16.19

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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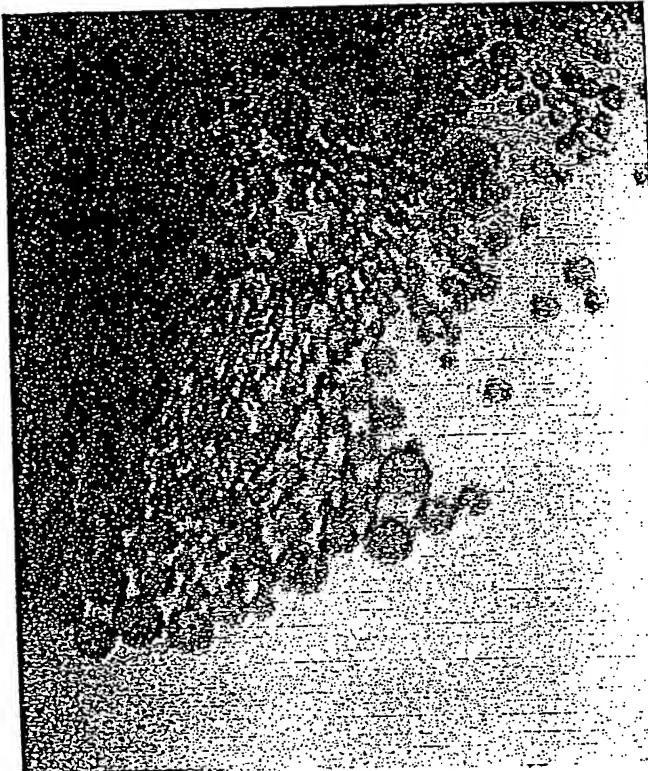


Fig 20

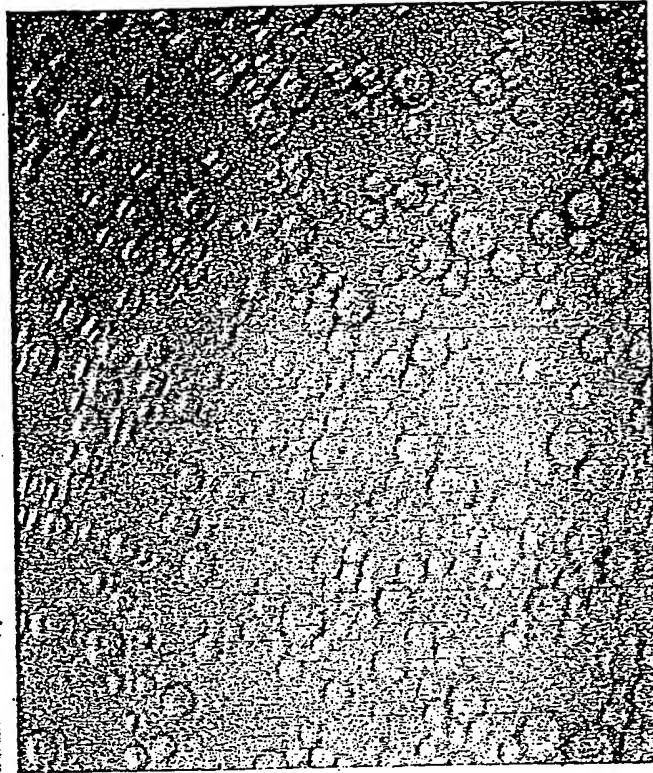


Fig 21

0 0 0
25 34 8
50 12 57
65 107 98
80 220 194

Fig 4

**Current peak height as a function of molecular
wire density in SAM**

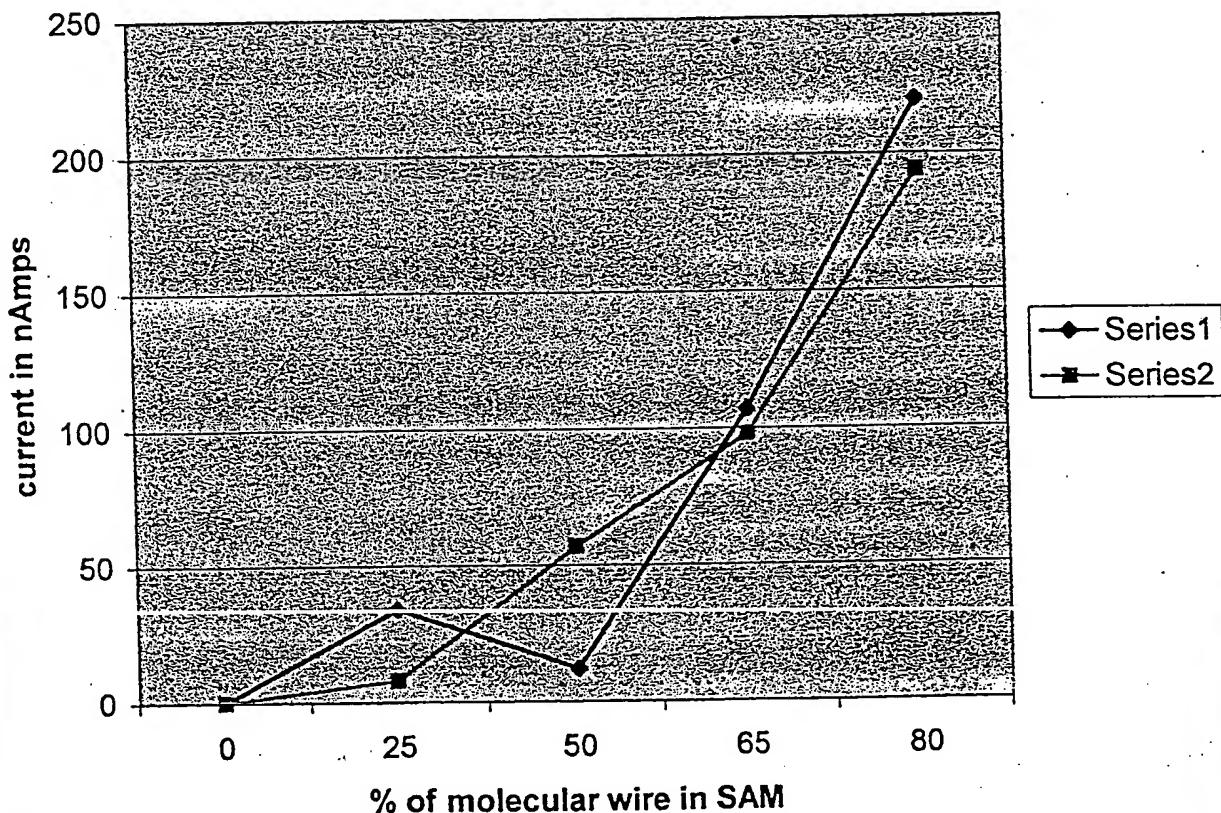


Fig. 22

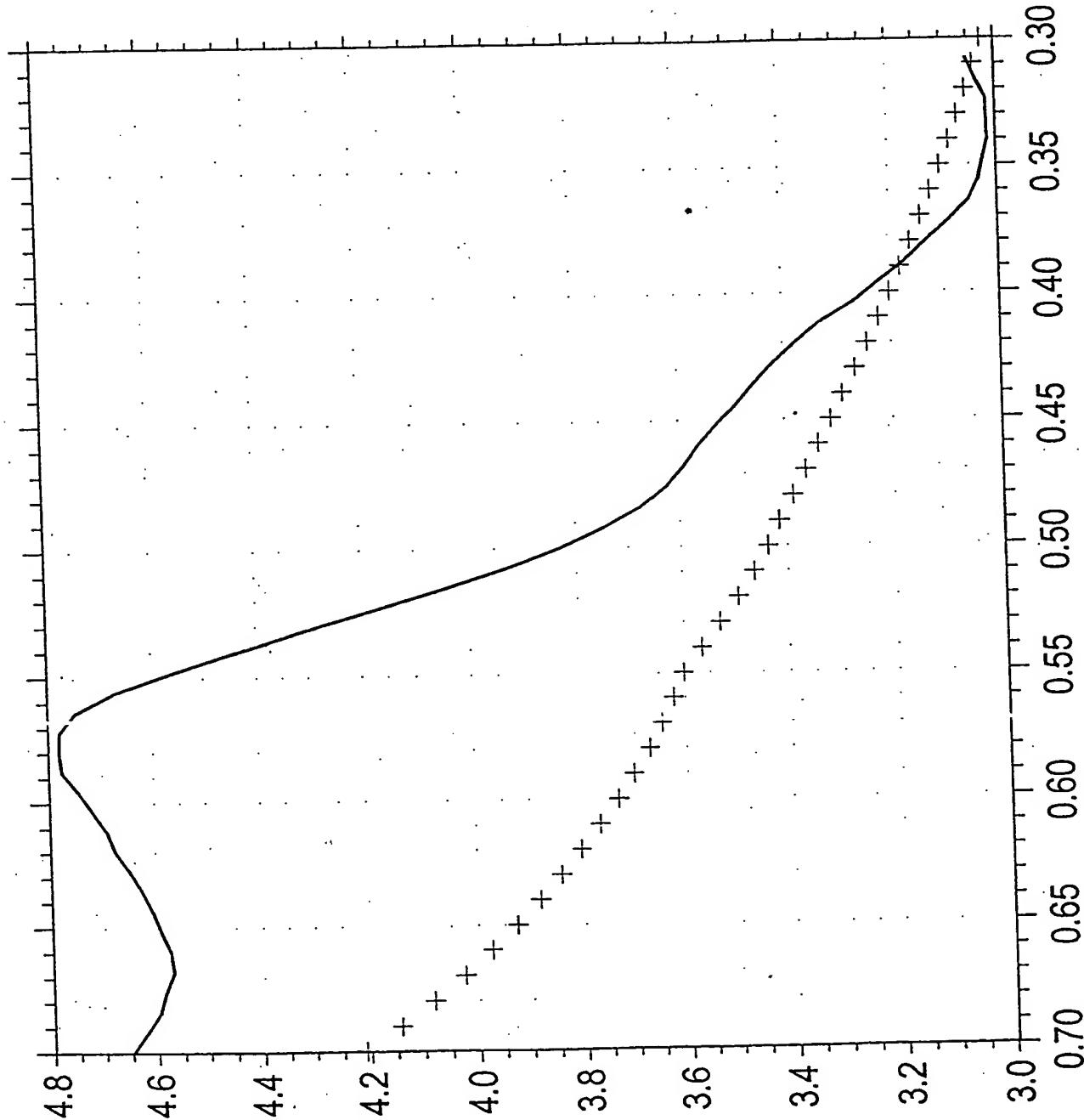
Sept. 30, 1999 17:16:37

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Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 1e-4
— cb040_019.bin
+ cb040_001.bin

Ric Sb

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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AC Current / 1e-6A

Potential / V

Fig. 23

Sept. 30, 1999 16:03:15

Tech: ACV

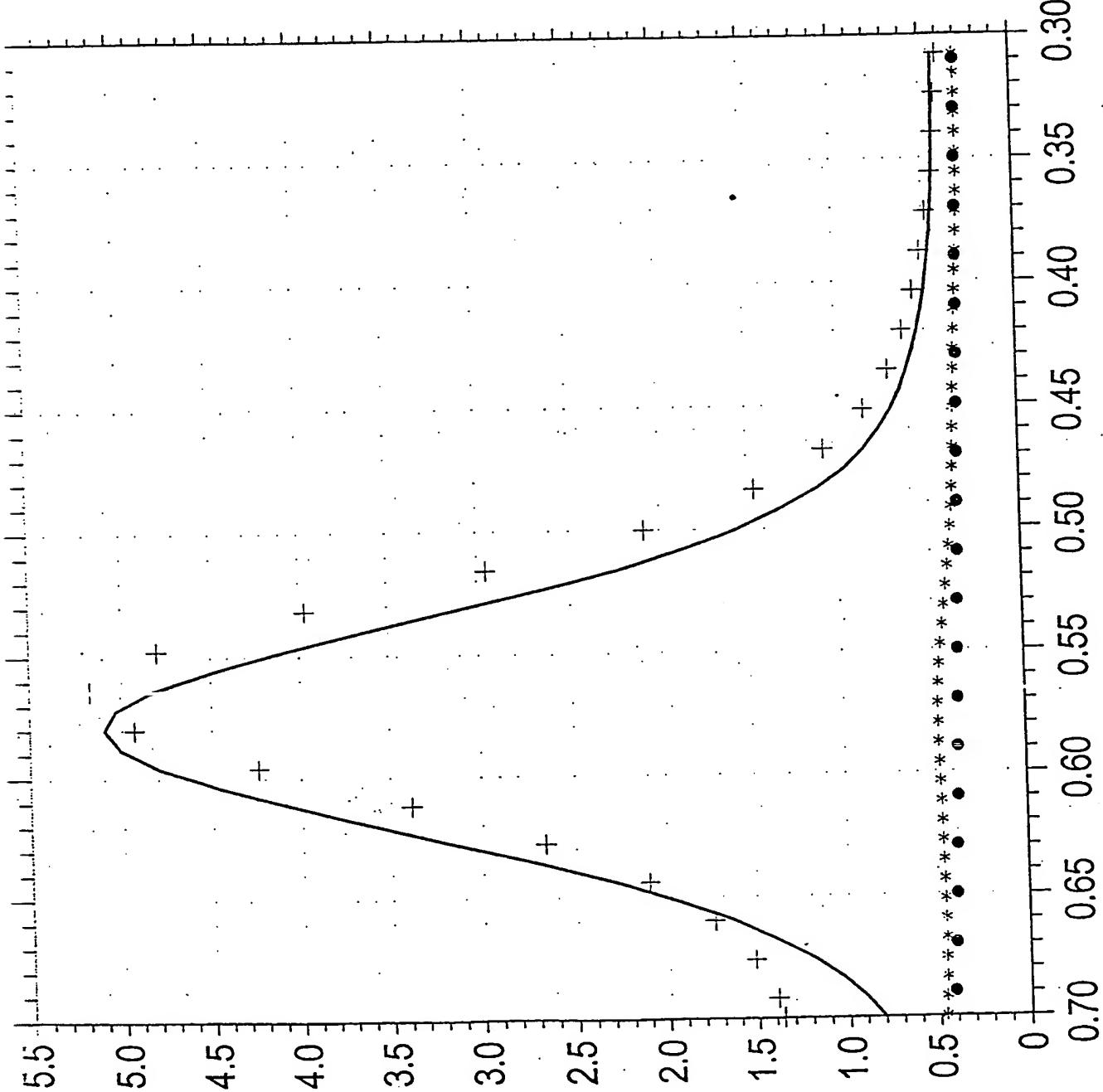
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Init E (V) = 0.3
Final E (V) = 0.7
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 1e-4

— cb040_006.bin
+ cb040_011.bin
* cb040_019.bin
● cb040_001.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Jg 6a



Jan. 11, 2000 12:38:39

Tech: ACV

File: sb062_007bb

Init E (V) = 0.1
Final E (V) = 0.7
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 5e-4

— sb062_007bb

○ sb062_012bb.bin

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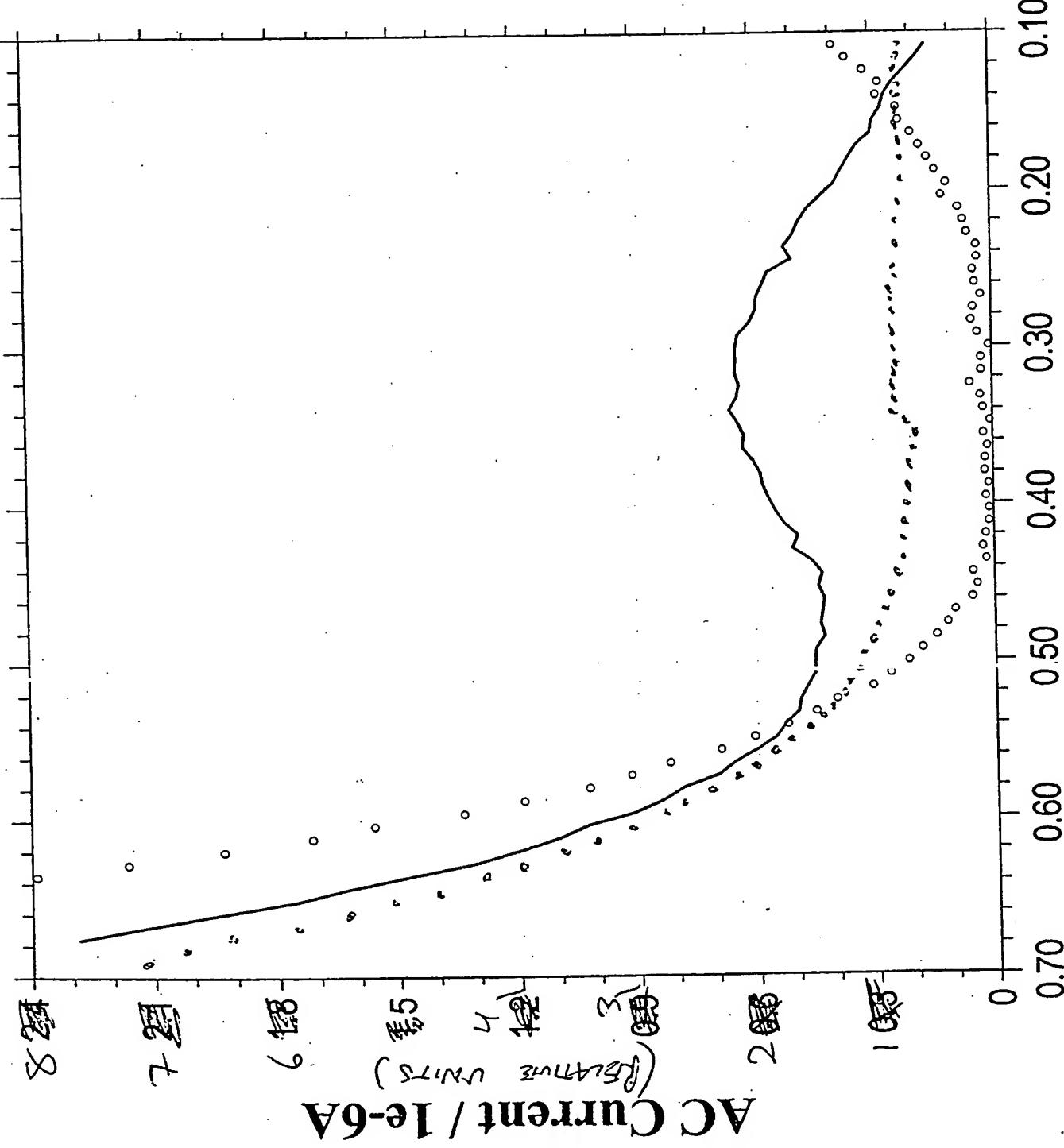


Fig. 25

Potential / V

Nov. 24, 1999 11:23:34

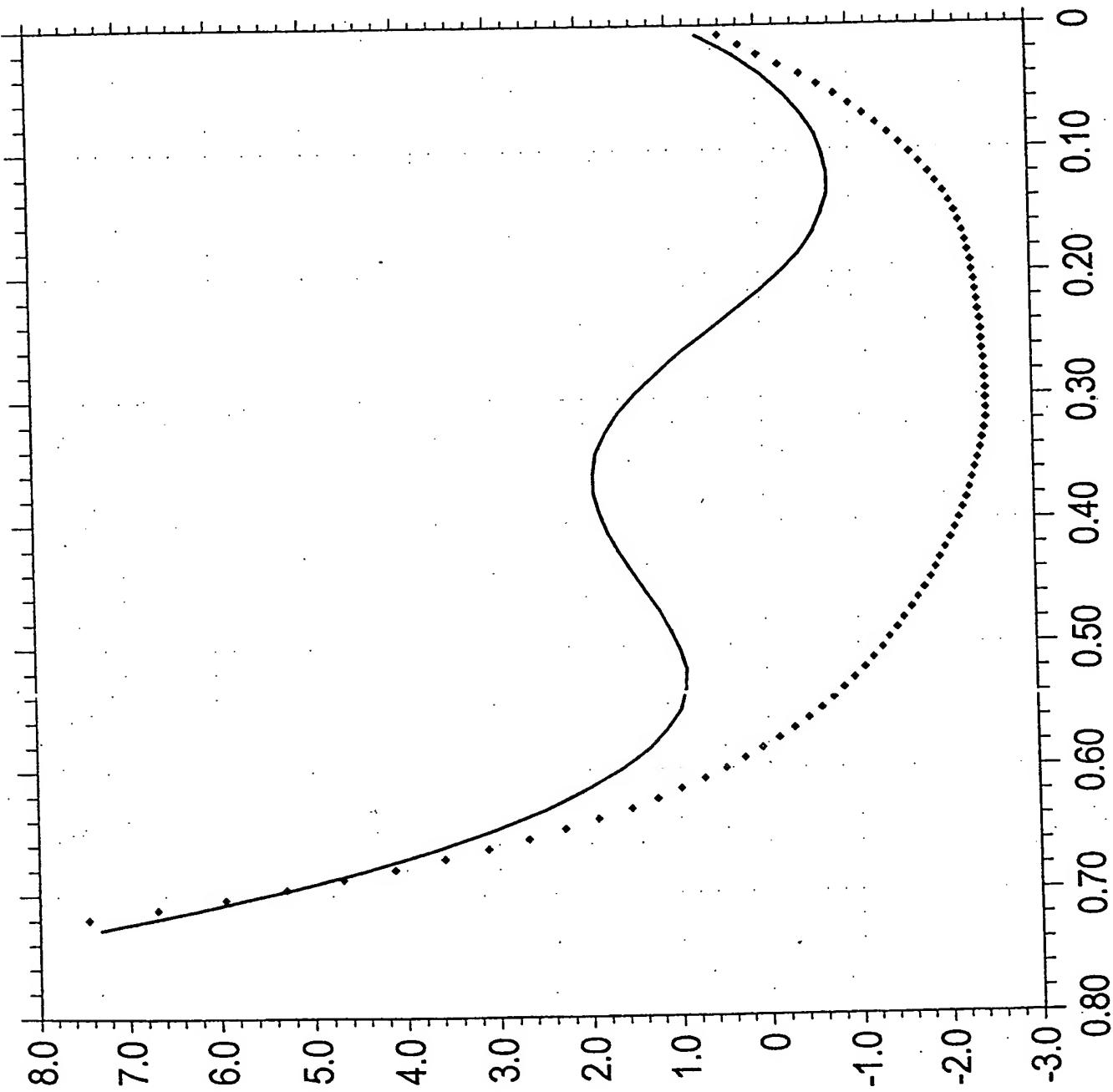
Tech: ACV

File: negconbb.bin

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Final E (V) = 0.8
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 1e-5

◆ negconbb.bin
— posconbb.bin

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AC Current / $1e-7A$

Potential / V

Fig. 26

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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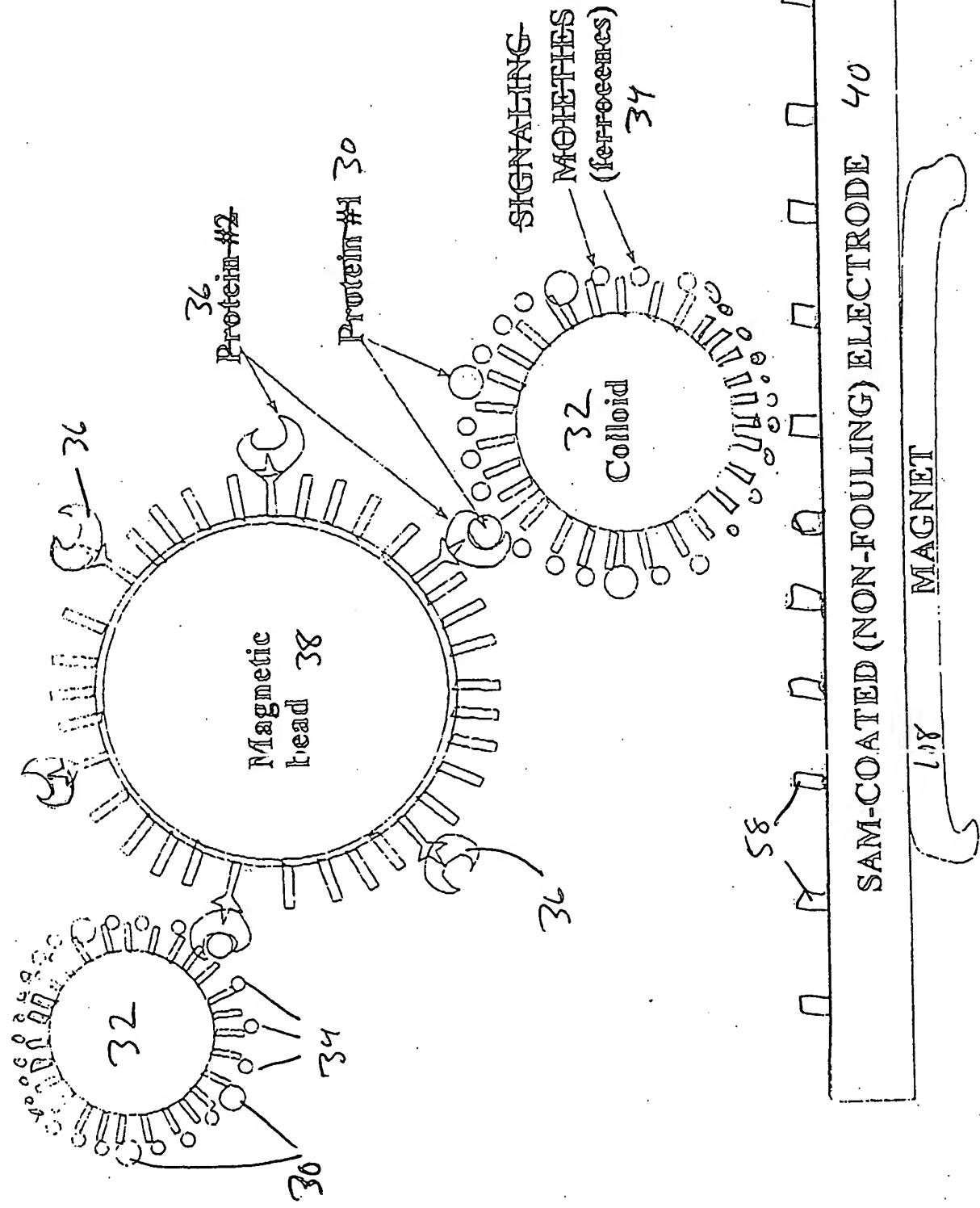


Fig. 27

roteins in close proximity to ferrocene all show some increase in current.

Sept. 2, 1999 20:20:54

Tech: ACV

File: cb027_009.bin

Init E (V) = 0.18
Final E (V) = 0.58
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 2e-6

● cb027_009.bin
— cb027_013.bin

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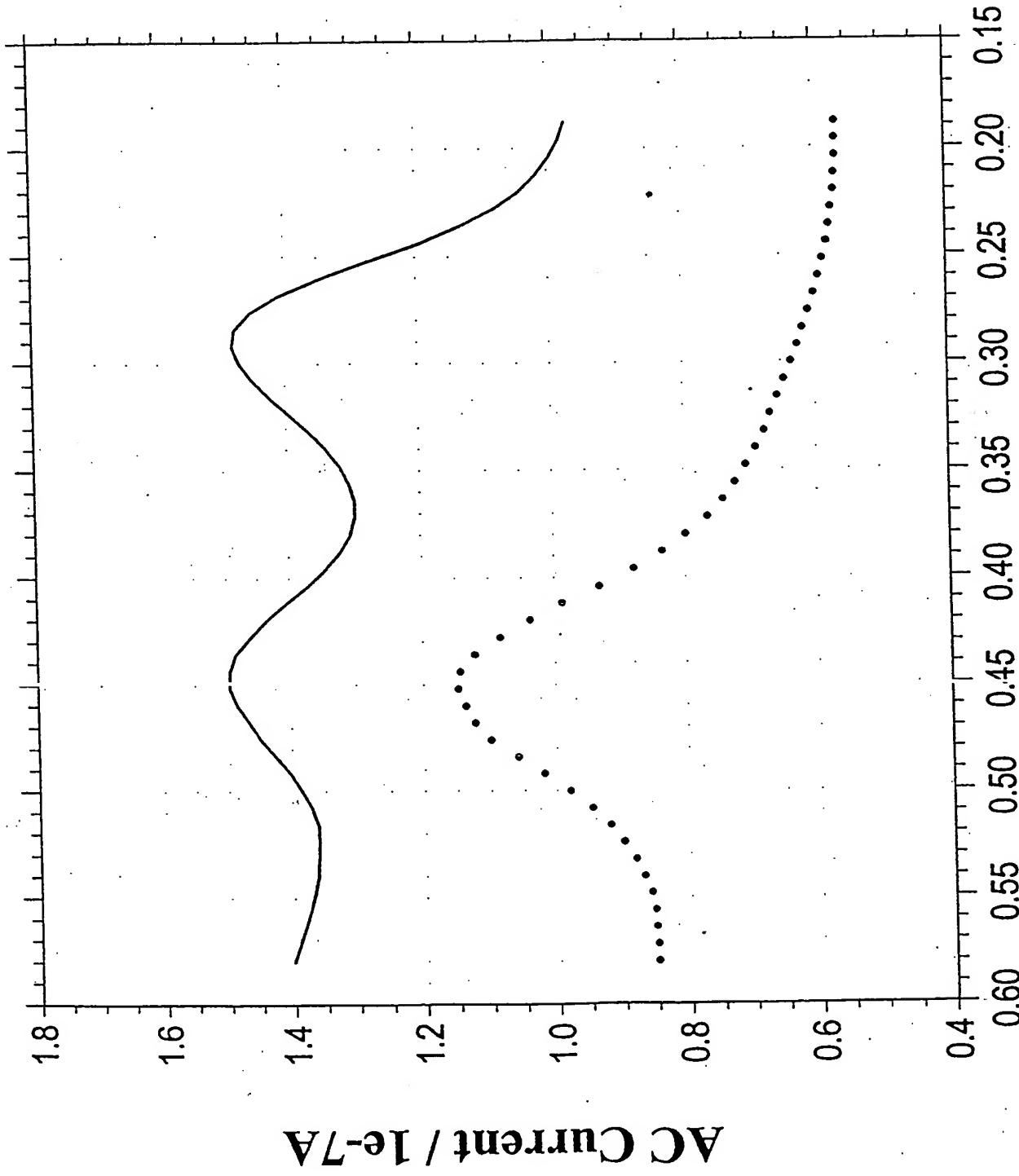
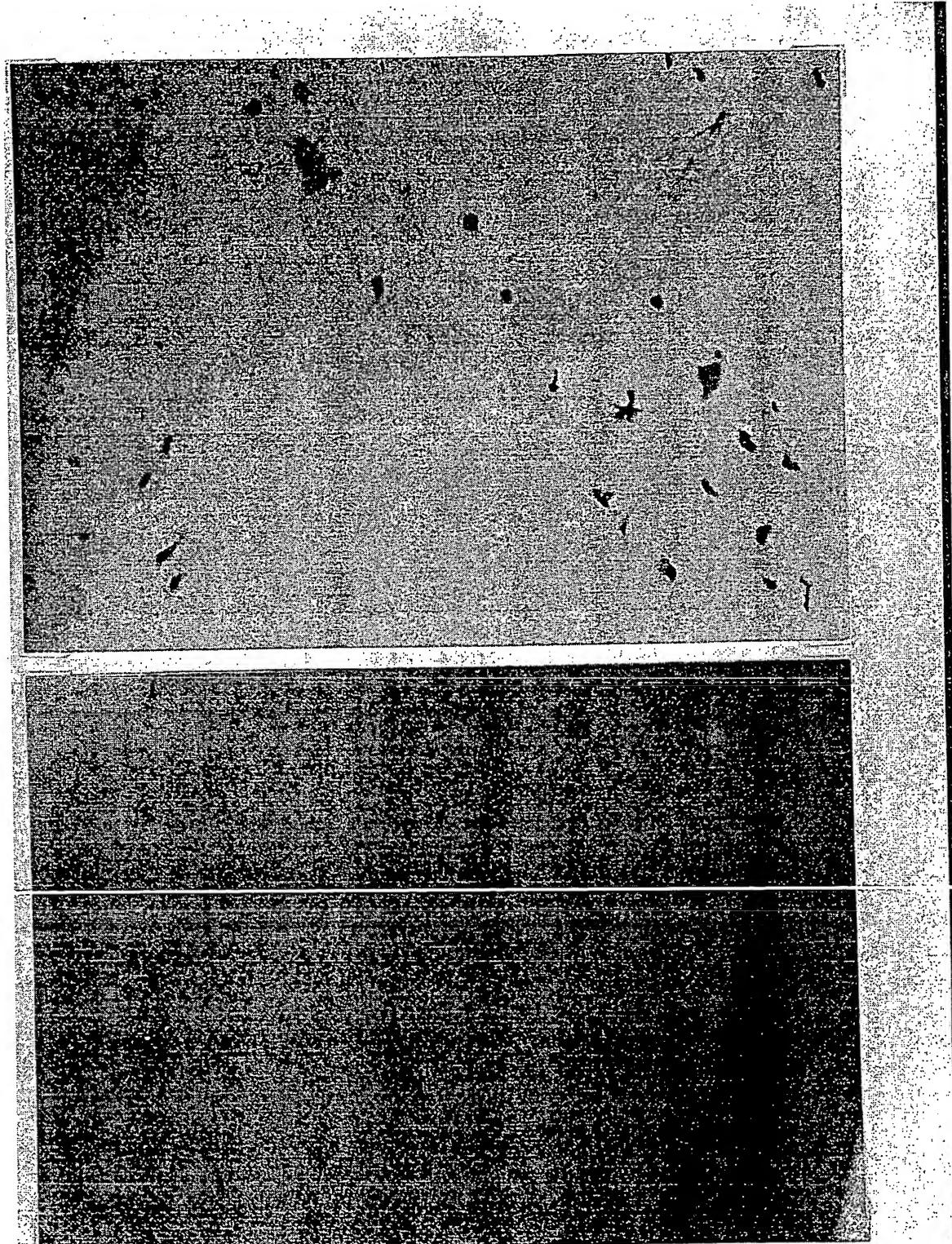


Fig. 28

Potential / V

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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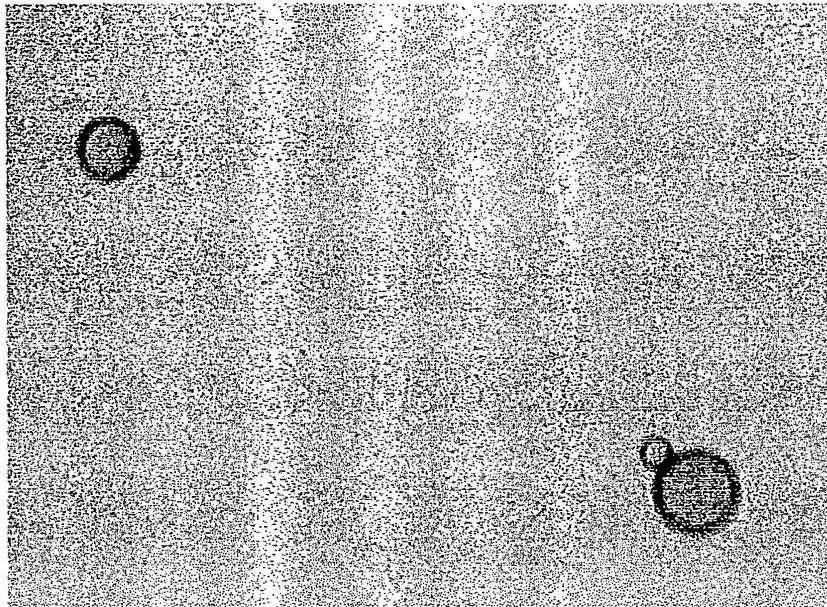


Fig 308

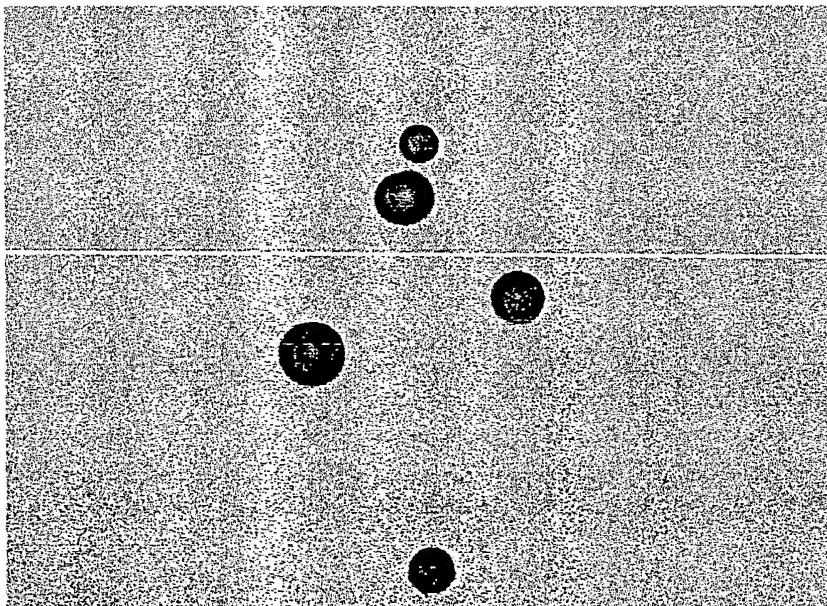


Fig 309

Colloid Modified ELISA Yields a Million-Fold Increase in Sensitivity



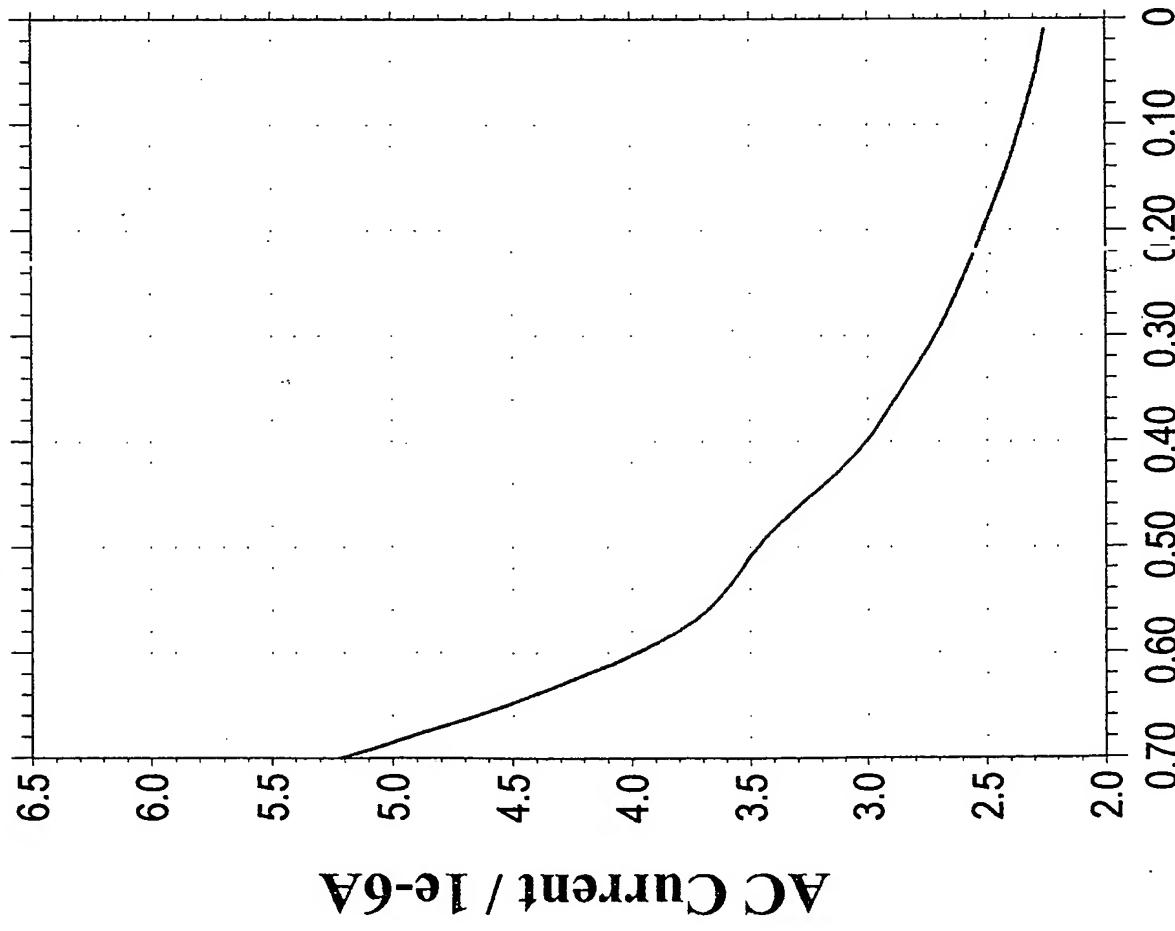
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Target protein (grams)

Fig. 31

25% MIP-1 chip with GSI-colloids

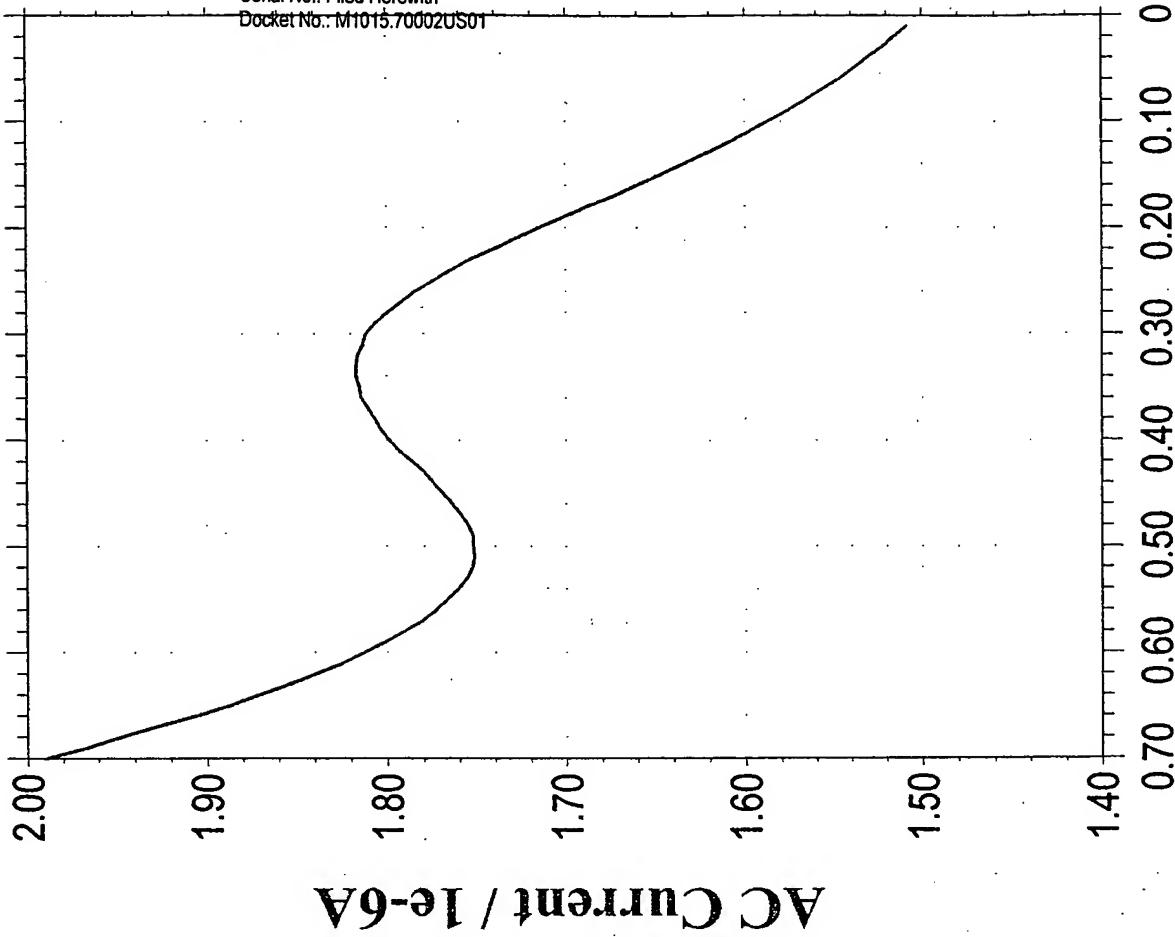
unbound colloids in solution.bin



Potential / V

Fig. 32A

bound to glutathione beads.bin



Potential / V

Fig. 32B

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